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Edited by
Bernard Mayo
with the advice of
A. J. Ayer
R. B. Braithwaite
Herbert Dingle
A. E. Duncan-Jones
C. A. Mace
A. M. MacIver
H. H. Price

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BASIL BLACKWELL · BROAD STREET · OXFORD

REPORT ON *ANALYSIS* 'PROBLEM' No. 11

'Is it possible that one and the same individual object should cease to exist and, later on, start to exist again?'

By A. N. PRIOR

'THE answer is Yes, because there is a way in which you can cause a thing to cease existing and, later on, cause it to start existing again. That way is: To take the thing apart and put it together again'; e.g. a watch. So the first entry I struck, by William Gerber (Washington D.C.); another, from D. S. Shwayder (Illinois) says the same, making the watch an automobile; Roger Montague (Bournemouth) makes it some tribe's sacred stone (the one at Westminster?). G. C. Nerlich (Oxford), for the same type of example, gives the opposite answer: 'When the parts of an object are dispersed, we rarely say that it has ceased to exist, but rather that it is broken, ruined, decayed or destroyed. Where we do say that an object has ceased to exist, we do so only when it seems impossible . . . that any reconstruction could take place, or if it could, where we would not allow that the reconstructed object was identical with the previously dispersed one. . . . It is perhaps hazardous to generalize these prescriptions for the use of the words "identity" and "existence" but this surely characterizes their typical use.'

That it is all a matter of 'prescriptions for the use of "identity" and "existence"', and that on account of these prescriptions there is a 'logical' impossibility in one and the same object . . . , are contentions met with in other entries too, and that not only in connexion with dispersal and reassemblage of parts. Richard Milner (Oxford) gives the discussion a theological twist, finding in texts like 'She is not dead, but sleepeth' the highest possible authority (reinforcing, no doubt, A. G. N. Flew) for thinking that '"raising someone from the dead" . . . has a self-contradictory ring about it'. To 'die', Milner argues in effect, precisely *is* to sleep *and wake no more*. (But for a Pure Ego, if there is any such, which is the 'ceasing to exist'?—any sleep at all, at least so long as it be dreamless, or only the final one?).

B. P. Lilburn (Christchurch, N.Z.), in the same general vein, says very nicely that the question 'belongs to that hinterland of confused linguistic spontaneity where what is strictly a logical impossibility appears to be an experiential possibility'. M. C.

Anderson (Hartford, Conn.) shows more clearly how such a thing can be, saying (Waismann-like) that while our language as it now is 'has no use' for assertions of interrupted existence, we might nevertheless *give* such assertions a use if our experience were such as to make this reversal of linguistic policy worth the bother (if objects continually disappeared without trace but with ones exactly like them appearing later on, and so on).

All this about what we would and would not say is good to have, and is *one* of the things I was after. But I did hope for something of a different sort as well, and of this some entries have a hint or two. 'It is not possible for the same thing to cease to exist and then regain existence . . . for this entails the absurdity that a thing can be there throughout to lose its existence and regain it.' So Terence Penelhum (Alberta), whose entry seems to me quite the best (on the 'linguistic prescription' side as well as on this one) and the only one worth printing in full; but he is all the same not quite fair here, for he changes my 'start to exist again' to 'regain existence'. A thing would have to in some way 'be there' before it exists in order to 'regain' existence, and indeed in order simply to 'gain' it, but not, surely, in order to 'start' existing, either for the first time or not for the first time. The same inattention to my *exact* wording would seem to vitiate Milner's complaint against it that while 'Yes, it exists' is sensible, 'Well, it's getting more existent every minute' is not. I couldn't agree more. But does my wording get me successfully out from under at the other end too? Does 'ceasing to exist' avoid the contradiction that 'starting to' (as opposed to 'coming to') avoids? Does one 'cease' from a thing at the last moment of doing it (as one 'starts' it at the first) or not till just after that? Certainly to *have ceased* to exist would seem to be an impossible feat *unless* one has started to exist again. That, anyhow, would have been worth discussing. So would this (the form in which the question first entered my own mind): What sort of *calculus of tensed statements* would we get if we allowed not only non-sempiternal but intermittent objects as possible values of our name-variables? and what if we did not? But no one did it this way.

The one wholly exasperating thing in the 16 entries is the talk in one or two of them of a 'strict' sense of 'one and the same' in which no object existing at one time can be the same individual as any object existing at another time, whether there's any intervening non-existence or not. So far from being a peculiarly 'strict' sense of the phrase in question, this seems

to me a hideous muddle. To quote an entry by David Wiggins, 'After an assertion that A is the same as B we can usually ask "the same *what*?"'; and to say that my successive instantaneous states are not one state but several is one thing, while to say that I in those states am not one but several individuals is to say quite another thing, and a thundering silly thing at that.

Canterbury University College, N.Z.

By TERENCE PENELHUM

IT is not possible for the same thing to cease to exist and then regain existence; though in some cases the same thing can (in a sense) have gaps in its life-history. It all depends on the kind of thing it is.

Pace Heraclitus, unchangingness is not a necessary condition of numerical identity, except in a few cases: e.g. a note, which we say has ceased and given place to another as soon as it is raised, lowered, or interrupted; this unchangingness is incorporated in the *concept* of a note. In the majority of cases the concept of a kind of thing allows some changes, but never all changes: e.g. the concept of a chair would still be applied if one leg split, but would be withdrawn when the whole thing was chopped into firewood. Some concepts not only allow changes in that to which they are applied, but require them: e.g. a tune cannot consist of a single note, or a speech of a single word.

Among the changes that are allowed or required may be time-gaps during which all the parts of the thing vanish, to be replaced later by others (perhaps exactly like them, perhaps not). A tune could consist of a succession of notes played staccato with time-gaps between them. A radio serial must consist of a number of episodes, with time gaps between.

But in these cases, although the parts which compose the thing can cease to exist and other parts come into existence, the thing which they compose does not cease to exist and re-enter existence; it exists continuously throughout the time-gaps, because the possibility or necessity of the time-gaps is included in the concept of the thing. The tune is still going on in the gaps between the notes, for what we mean by "a tune" is partly "a sequence of notes with (perhaps) some intermediate silences". The radio serial is in progress between the instalments, by definition.

So the occurrence of time-gaps during the life-history of a ϕ is possible if ϕ is by definition the sort of thing which may or must contain them; but this does not entail that there are gaps in the *existence* of the ϕ: it entails that there are none, for if a thing incorporates gaps it exists through them.

An unnoticed part of the truth expressed in the adage " Existence is not a predicate " is that although a genuine predicate can apply to something, cease to, and then do so again, existence cannot belong to something, cease to, and then do so again—for this entails the absurdity that a thing can be there throughout to lose its existence and then regain it.

Suppose a queer cases arises where we are tempted to say otherwise—suppose a man vanishes into thin air, and the next day someone exactly like him appears. Our temptation is there because " man " is not at present a gap-inclusive term, so that if we want to say it is still Smith we must (it seems) say Smith ceased to exist for a while. To avoid the absurdity we should either refuse to say it is Smith *or* make the concept of a man gap-inclusive. (The fact of unconsciousness forced many who identified men with their minds to consider this possibility.)

Gaps in a thing *preclude* gaps in its existence. In our language the annihilation of the parts of a thing present at a given time does not necessarily destroy *it*, but if it does, it does so *permanently*.

University of Alberta.

MOORE'S PARADOX

Synonymous Expressions and Defining

By B. H. Medlin and J. J. C. Smart

IN his discussion of Russell's Theory of Descriptions (*The Philosophy of Bertrand Russell*, ed. Schilpp, pp. 205–206) G. E. Moore presents a paradox which seems so far to have been ignored. Certainly Russell, in his reply, gives no sign that he had encountered it. We propose in Part I of this paper to restate the paradox, which is somewhat wordy as presented by Moore, in symbolic form and then to show its significance. This restatement will facilitate the resolution of the paradox in Part II. Finally (Part III) we hope to meet whatever objections to our argument may be found in Moore.

Moore demonstrates his paradox upon the proposition that:

> The sentence 'the King of France is wise' means neither more nor less than that at least one person is a King of France, at most one person is a King of France, and there is not anyone who is a King of France and not wise.

If this proposition is taken as an account of how descriptions are used, not in mathematical logic but in ordinary English, it is false. Moore, however, believed that it was true and yet evolved an argument to demonstrate its falsity. Our objections to Moore's argument have nothing to do with our reasons for believing the proposition false. It should be pointed out that Moore's argument purports to show that any proposition expressed by a sentence of form similar to that of the above sentence must be false.

We employ the following symbols.

P for the proposition stated above.

S for the sentence employed to state it.

T for the sentence 'the King of France is wise'.

T_p for the proposition expressed by T.

U for the sentence 'at least one person is a King of France, at most one person is a King of France, and there is not anyone who is a King of France and not wise'.

U_p for the proposition expressed by U.

ϕ for the relation expressed by '*means neither more nor less than that*'.

When translating our symbolism into ordinary language (henceforth we shall say just "when translating") supply these words without quotes.

θ for the relation expressed by '*means neither more nor less than what is meant by*'.
When translating supply these words without quotes.

ψ for the relation (if we may speak so for convenience) expressed by '*is the same proposition as*'.
When translating supply these words without quotes.
We adopt a convention whereby "$(\Gamma\psi\Delta)\wedge(\Delta\psi E)$" may be written '$\Gamma\psi\Delta\psi E$'.

$\mathfrak{T}$ for literal German translation of T.

$\mathfrak{T}_p$ for the proposition T_p.
But now when translating supply, without quotes, literal German translation of T.

$\mathfrak{U}$ for literal German translation of U.

$\mathfrak{U}_p$ for the proposition U_p.
But now when translating supply, without quotes, literal German translation of U.

ϕ_G for the relation ϕ.
But now when translating supply, without quotes, literal German translation of '*means neither more nor less than that*'.

θ_G for the relation θ.
But now when translating supply, without quotes, literal German translation of '*means neither more nor less than what is meant by*'.

ψ_G for the relation ψ.
But now when translating supply, without quotes, literal German translation of '*is the same proposition as*'.

$\left.\begin{matrix}A\\B\end{matrix}\right\}$ for two expressions which are asserted to be synonymous.

$\left.\begin{matrix}\Gamma\\\Delta\end{matrix}\right\}$ for two expressions, asserted to be synonymous, whose significance is unknown.

Γ_s for an English sentence, in quotes, in which the expression Γ occurs.

Δ_p for a proposition expressed by an English sentence, not in quotes, in which the expression Δ occurs.

$\rightarrow$ for strict implication.
$\leftrightarrow$ for mutual strict implication.
$\sim$ for negation.
$\wedge$ for conjunction.

When a symbolic expression constructed out of the symbols of this glossary stands in quotes in the sequel, it must be read not as mention of the quoted symbols but as mention of the English or German expressions of which these symbols are abbreviations.

I

Now we can state the paradox thus:

P is the proposition $T\phi U_p$

$[P \wedge (T\phi T_p)] \rightarrow [(T\phi T_p) \wedge (T\phi U_p)]$

(1) $\therefore [P \wedge (T\phi T_p)] \rightarrow (T_p \psi U_p)$

(2) $\therefore [P \wedge (T\phi T_p)] \rightarrow [(T\phi T_p) \psi (T\phi U_p)]$

(3) But $\sim[(T\phi T_p)\psi(T\phi U_p)]$

From (2) and (3)

$\therefore \sim[P \wedge (T\phi T_p)]$

Since $T\phi T_p$ is obviously true

(4) $\therefore \sim P$, i.e., $\sim(T\phi U_p)$.

It may be objected here that we have no cause to assert (3). But this objection can be overcome by considering the following propositions:

Anyone who were to assert the proposition that $T\phi U_p$ would be giving an analysis of T.

Now if $(T\phi T_p)\psi(T\phi U_p)$, then from this true proposition we derive by substitution:

Anyone who were to assert the proposition that $T\phi T_p$ would be giving an analysis of T.

This is clearly false.

$\therefore \sim[(T\phi T_p)\psi(T\phi U_p)]$.

It remains to be said that this paradox does not, as Moore seemed to think, especially concern the Theory of Descriptions. In fact, Moore's argument is a specious demonstration that no two sentences can be synonymous. (For this reason P, S, T, T_p, U, U_p become variables hereafter.) This may at first seem

obvious: but it should be remembered that Moore claims that

$$\sim[(T\phi U_p)\psi(T\theta U)]$$

and devotes some time to demonstrating this (pp. 200–205). And since we are not yet ready to contest Moore's claim, we must show by other means where his conclusion leads. For instance, it is obvious that

$$(T\theta U) \rightarrow [(T\phi U_p) \wedge (U\phi U_p)]$$

But $\sim (T\phi U_p)$ – – – – see (4)

$$\therefore \sim [(T\phi U_p) \wedge (U\phi U_p)]$$

(5) $\therefore \sim (T\theta U)$.

If no two sentences, then no two expressions can be synonymous. Consider the following propositions:

(6) The expression *A* means neither more nor less than what is meant by the expression *B*, e.g. " femur " means " thigh bone ".

(7) The sentence ' this is an *A* ' means neither more nor less than what is meant by the sentence ' this is a *B* '.

i.e. $T\theta U$

Now (6) is true if and only if (7) is true.

But if Moore's argument holds (7) is false (see 5).

∴ (6) is false.

That is, all propositions of the form $A\theta B$ are false.

That is, no two expressions can be synonymous.

These results are intolerable to common sense, yet valuable in that they indicate that something is wrong with the way we are trying to handle at least one of the expressions ' means neither more nor less than that ', ' means neither more nor less than what is meant by ', ' is the same proposition as '.

II

Moore rightly points out (p. 205) that his particular objection to P, i.e. $T\phi U_p$, would be invalid were it true that $(T\phi U_p)\psi(T\theta U)$. He takes some time to show that it is not true (pp. 200–205). We want to establish that, on the contrary,

$$(T\phi U_p)\ \psi\ (T_p\psi U_p)\ \psi\ (T\theta U).$$

We hope to justify this claim, partially at any rate, in this section and to counter Moore's arguments in the next.

Moore says, again rightly, (p. 207) that it is pretty certain

that the assertion which the argument makes in (2)[1] is false. But he doesn't think it's at all easy to see why it is false. We shall try to show why. Why, that is, we can't go from the assertion of

(1) $[P \wedge (T \phi T_p)] \rightarrow (T_p \psi U_p)$

to what seems obviously to follow, namely the assertion of

(2) $[P \wedge (T \phi T_p)] \rightarrow [(T \phi T_p) \psi (T \phi U_p)]$.

What does P assert? Does it, as the form of S would suggest, assert that a certain relation holds between the English sentence T and a proposition U_p (the proposition expressed by the English sentence U)? It is not easy to see what (if anything) could be meant by talk about " the relation between a sentence and a proposition ". How do we understand an assertion that a sentence " means neither more nor less than (that) " a proposition, or stands in the relation to that proposition of meaning neither more nor less than (that) it? These seem to be the wrong questions. But if we ask instead, " What is the use of such an English sentence as S? ", the problem opens up. For such a sentence, i.e. " $T \phi U_p$ ", is employed to teach people who don't know the use of one English form of words (T) and do know the use of another (U) what is the use in English of that first form of words.

(7) i.e. " $T \phi U_p$ " is a disguised form of " $T \theta U$ ".

Similarly " $T_p \psi U_p$ " does not assert a relation (identity) between two propositions, but a relation (synonymy) between two English sentences.

(8) i.e. " $T_p \psi U_p$ " is a disguised form of " $T \theta U$ ".

That $T \theta U$ is true means that on all occasions where we find one of these sentences in use we may substitute the other, for " $T \theta U$ " asserts that the two sentences have the same use. But it asserts this by mentioning T and U, not by using them. The point of mentioning U is to teach the use of T and, naturally, if in place of U we merely mention T again, the resultant sentence, " $T \theta T$ ", will not teach the use of T. So that

(9) Even though T and U are synonymous, we may not alter the sentence " $T \theta U$ " within a context by mentioning T in place of U to get " $T \theta T$ " in the same context.

(10) Nor may we, taking some disguised form of " $T \theta U$ ", mention some disguised form of T in place of the disguised form of U to get a disguised form of " $T \theta T$ ".

[1] In Moore's presentation (4).

From (7) and (8): if we interpret " $T_p \psi U_p$ " as giving us the right of substitution in

$$(T \phi U_p) \psi (T \phi U_p)$$

to get $(T \phi T_p) \psi (T \phi U_p)$

we are really interpreting " $T \theta U$ " as giving us the right to mention T in place of U in

$$(T \theta U) \psi (T \theta U)$$

to get $(T \theta T) \psi (T \theta U)$.

And this is what (9) and (10) forbid us to do.

Moore's paradox might then be stated in the form

(α) $T \theta U \rightarrow [(T \theta T) \psi (T \theta U)]$

But $\sim [(T \theta T) \psi (T \theta U)]$

So $\sim (T \theta U)$

The consequent of (α) is the proposition

> The proposition that T means neither more nor less than what is meant by T is the same proposition as the proposition that T means neither more nor less than what is meant by U.

This is obviously false; but if we reject (α), $T \theta U$ may nevertheless be true. And (9) and (10) remove our only reason for asserting (α).

We can call attention now to an alternative version of Moore's paradox which he demonstrates upon the proposition that :

> The sentence 'the King of France is wise' means neither more nor less than what is meant by the sentence 'at least one person is a King of France, at most one person is a King of France, and there is not anyone who is a King of France and not wise'.

But this is a proposition expressed by a sentence of form " $T \theta U$ ". It has, therefore, already been dealt with in the resolution of the paradox as formerly presented.

III

Moore would not allow us to resolve the paradox by the methods we have employed. He would certainly resist our claim that

$$(T \phi U_p) \psi (T_p \psi U_p) \psi (T \theta U).$$

And he would resist in three ways.

(i) He would claim that when we translate into a foreign language, say German, the sentences:

(α) $T\phi U_p$,

we should translate thus: $T\phi_G \mathfrak{U}_p$

(β) $T_p\psi U_p$,

we should translate thus: $\mathfrak{T}_p\psi_G \mathfrak{U}_p$

(γ) $T\theta U$,

we should translate thus: $T\theta_G U$

We shall consider only (α) and (γ); what we have to say, if it is sound, may easily be adapted for (β). Let us suppose that we are translating into German a logical treatise in which both Moore's 'King of France' sentences occur. (The one of form $T\phi U_p$, the other of form $T\theta U$.) Or suppose that we are doing an examination in German and encounter these sentences in the English-into-German. How are we to translate? Certainly not as Moore suggests, unless we wish that our treatise flop, or that we fail our exams. We must translate into German every part of both sentences, whether that part be enclosed in quotes or not. Now we will have two entirely German sentences:

(α) $\mathfrak{T}\phi_G \mathfrak{U}_p$

(γ) $\mathfrak{T}\theta_G \mathfrak{U}$

German (α) and German (γ) both have the same use; namely, to teach someone who is familiar with German $\mathfrak{U}$ how to use German $\mathfrak{T}$. They have not the same use as English (α) and English (γ) (to teach some one familiar with U how to use T) but merely an analogous use.

The only possible German sentence with the same use as these two English sentences would be

$$T\theta_G U.$$

Moore believes that we should thus translate English "$T\theta U$". But surely too strict a regard for the logic of inverted commas has led him astray respecting that very logic. For the German sentence "$T\theta_G U$" would be absolutely *no* use to the German reader unfamiliar with either T or U, even supposing that he did want to learn the use of English T.

Similarly the German sentence

$$T\,\mathfrak{T}\phi_G \mathfrak{U}_p$$

would not be a correct translation of the English sentence "$T\phi U_p$", for it would teach the use not of German $\mathfrak{T}$ but of English T.

Moore's methods of translation would only be justified were he turning into German something like an English Grammar, written in French. Then, certainly, handling the French sentence

$$T\ \theta_F U$$

which asserts that English T and U are synonymous, he must translate by the German sentence

$$T\ \theta_G U$$

retaining the English T and U. But this is because he would be writing for readers familiar with English U, and wanting to learn the use of English T.

(ii) Moore would claim that:

> The sentence "$T\theta U$" may be understood whether we understand the sentences T and U or not. But to understand "$T\phi U_p$" we must understand the sentence U. And, of course, by means of U we understand T.

Thus a sentence like

$$\Gamma\theta\Delta$$

would be entirely intelligible to us, Moore would say, even though the significance of Γ and Δ is entirely unknown; whereas the sentence

$$\Gamma_s\phi\Delta_p$$

would be entirely unintelligible. Moore goes so far as to claim that for this reason no sentence of the form "$T\theta U$" can define T. On the other hand, a sentence of the form "$T\phi U_p$" can define T and, he believes, his sentence of this form does.

There is a sense of "intelligible" in which Moore is correct when he claims that "$\Gamma\theta\Delta$" is an intelligible sentence. We may indeed, use such a sentence to convey to you the unexciting information that two expressions, unintelligible to ourselves and to you, have the same use amongst those who know how to use them. And if you understand us, our sentence has been intelligible. But in this sense so can "$\Gamma_s\phi\Delta_p$" be "intelligible". Now we may well ask what use "$T\phi U_p$" can have that "$T\theta U$" may not also have. None, we think. And what is the common use of both sentences? Once again, to teach the use of the sentence T to someone who knows the sentence U. And neither sentence can have this use where U is unfamiliar. Of course, both sentences may be used backwards to teach the use of U to someone familiar with T. But where both U and T are unfamiliar, the sentences cannot have this function either

and cannot have the function of teaching the use of *any* expression in English. In such a case both sentences alike are unintelligible in a sense of that word far more important than Moore's. Yet whichever sense he should prefer, " $T\theta U$ " and " $T\phi U_p$ " are both at once either unintelligible or intelligible.

(iii) And Moore would claim as well that:

> $T\phi U_p$ and $T\theta U$ are certainly different propositions, since one does not entail the other without a second premiss. For we cannot say
>
> $$(T\phi U_p) \leftrightarrow (T\theta U)$$
>
> but only
>
> $$[(T\phi U_p) \wedge (U\phi U_p)] \rightarrow (T\theta U) \quad . \quad . \quad . \quad (a)$$
>
> and
>
> $$[(T\theta U) \wedge (U\phi U_p)] \rightarrow (T\phi U_p) \quad . \quad . \quad . \quad (b)$$
>
> $U\phi U_p$ is obviously true but it is not a tautology.
>
> Hence:
>
> $T\phi U_p$ alone does not entail $T\theta U$
>
> and
>
> $T\theta U$ alone does not entail $T\phi U_p$.

We shall claim, on the other hand, that $U\phi U_p$ is indeed a tautology and that hence (*a*) and (*b*) become respectively:

$$(T\phi U_p) \rightarrow (T\theta U) \; . \; . \; (c)$$

and

$$(T\theta U) \rightarrow (T\phi U_p) \; . \; . \; (d)$$

So that, from (*c*) and (*d*), it follows that

$$(T\phi U_p) \leftrightarrow (T\theta U)$$

And this proposition is necessary.

Moore has two reasons for saying that $U\phi U_p$ is not a tautology.

(*a*) He claims that the English sentence

$$U\phi U_p$$

and the German sentence

$$U\phi_G \mathfrak{U}_p$$

both express the same proposition, and that obviously $U\phi_G \mathfrak{U}_p$ is not a tautology.

There is a sense in which both sentences do express the same proposition. And obviously German " $U\phi_G \mathfrak{U}_p$ " does not express a tautology. But there is an extremely important sense

in which they do not express the same proposition; for not only do they not have the same use, but they don't even have an analogous use. And the reason why German "$U\phi_G\mathfrak{U}_p$" does not express a tautology is just that it does have a different use from that of "$U\phi U_p$". The German sentence teaches the use of the English U to someone familiar with the German $\mathfrak{U}$. The English sentence has no such use, for it has no use at all. (Though, of course, it could have in contexts easy to imagine. It could be employed to emphasize a point, for instance.) So that, even if we like to say that the two sentences express the same proposition (and in some moods we may) we cannot say that they have the same use. That the German sentence "$U\phi_G\mathfrak{U}_p$" is not tautological by no means alters that fact that the English sentence "$U\phi U_p$" is.

(β) And Moore would claim that $U\phi U_p$ is not tautological because it may be false, or rather might have been.

Once again, in a sense, this is true. But, briefly, if we say that that English sentence U might not have expressed in English the proposition U_p, we are saying merely that it is conceivable that a certain form of words should have had a different use in our language, even that it should have had no use at all. The fact stands that whenever, in the context of our language as it is, we formulate the sentence "$U\phi U_p$" we construct a form of words the use of which is to teach that U is synonymous with U. That is, we utter a tautology.

Similar objections could be brought against our claim that

$$(T_p\psi U_p)\psi(T\theta U).$$

But it is easy to see how similar answers could be made to them. We believe that the truth of the proposition we have used to resolve Moore's paradox could be defended against all criticism. That is, we are confident that

$$(T\phi U_p)\psi(T_p\psi U_p)\psi(T\theta U).$$

We wish to thank Mr. P. T. Geach who read this article before publication and corrected some bad mistakes.

University of Adelaide

ON CHOOSING

By W. D. GLASGOW

IN a recent paper[1] Mr. Evans attacks what I take to be the traditional, and still held, doctrine on choice. According to him it is often asserted that choice is an intermediary between deliberation and action. It is, that is to say, closely connected with both, although the nature of the connection (especially between choice and deliberation) is not made clear. On the one hand, choosing is not deliberating, although some might say that it forms the last part of the deliberating process, while others would maintain that it 'supervenes' on deliberation. On the other hand, it is not acting, but (so moralists say) it initiates action, so that the connection between choice and action is causal, although action need not follow immediately on choice.

Against this Evans puts forward the view that choosing can be defined as *doing* this-rather-than-that, with the emphasis on the *doing* or the *acting*. For example, where I am offered tea or coffee and choose coffee, it seems clear (according to Evans) that the choosing can be identified with the taking of the coffee-rather-than-tea. This is especially obvious where the verb 'to choose' is followed by a noun, and this use the author calls the 'standard' use of the verb. There is then no point in asking about the nature of the relation between choosing and acting: they are not separate occurrences. As a result of this new approach all sorts of questions which have troubled philosophers in the past disappear, among them the question as to what is the proper target of moral approval or disapproval, the choosing or the acting.

The position that I wish to take up in this paper is that while it seems possible in many cases to substitute for the verb 'to choose' other verbs such as 'to take' or 'to act', we must not therefore be misled by such language into saying that choosing *is* acting or doing this-rather-than-that. The moralists, I will maintain, are trying to say something important (however inadequately) when they make choice an intermediary between deliberation and action, so putting it on the same logical level as decision.

Let us first of all consider the relationship between choosing and deciding. Evans says (p. 310) that "moralists have, through

[1] J. L. Evans, 'Choice', *The Philosophical Quarterly*, 1955, p. 301.

identifying choosing and deciding, tended to give a similar account of choosing, so that it has become usual to regard choosing and doing as two separate, though causally connected, activities". Both (i.e. choosing and deciding), tradition asserts, imply (*a*) previous deliberation, (*b*) perplexity, (*c*) a similar relation to action, for both initiate action, (*d*) that the objects of the decision or choice are within our power. This position he now rejects, although not completely. Professor Nowell-Smith, who takes up a position similar to Evans's and whose views I will discuss later, does admit[1] that in some cases we choose without *doing* anything. A man may choose a place for his holiday next year. In such a case we may "equally say that he has decided or made up his mind where to go". But Nowell-Smith wishes (without saying why) to limit his use of 'choose' to cases where choosing involves doing something at the time. Evans, also, while thinking that it is a mistake always to identify choosing and deciding, agrees[2] that "there are occasions where the two verbs are used synonymously. . . .". Both writers concede so much to tradition, but it turns out to be very little. Evans argues "I wish to maintain that there are certain uses of the verb 'to choose' where it is quite mistaken to identify it with deciding and that these uses are what we may call the *standard* uses of the verb" (italics mine). Deciding Evans defines[2] (roughly) as "achieving preparedness to act". Action need not follow immediately, or even at all, the making of a decision. "Choice, on the other hand, involves much more than preparedness to act. It is acting. Choice is then much more final than decision. One decision may be revoked by a succeeding decision, while it is only another action which can, so to speak, revoke a choice."[3]

Let us consider more closely the nature of choosing. Supposing I say, "I spent all the morning choosing a tie." This statement might suggest that choosing is a process, and this would be misleading. If someone were to ask me "Are you going on choosing this afternoon?" I would find it an odd question, and it is odd because both the question and the original statement are elliptical. The full version of the statement might read "I spent all the morning looking at a number of ties and *trying to choose* one of them". During this time I look at the ties, weigh up their merits and demerits, and eventually pick up one and say "I've chosen at last!" Choosing then is not a process:

[1] P. H. Nowell-Smith, *Ethics*, p. 101.
[2] J. L. Evans, *op. cit.*, p. 309.
[3] J. L. Evans, *op. cit.*, p. 309.

it is an upshot of a process. So questions such as " How long did you spend choosing? " are philosophically misleading, although practically harmless.

Choosing, then, is an upshot, an upshot which comes after deliberation on various possible courses of action. Evans may well agree with what I have said so far. Disagreement begins with the question of the relationship between deliberation, choosing and acting. According to Evans there are only two factors involved in the total situation—the deliberating and the choosing *or* acting (for the choosing can be identified with the acting. Choosing he further qualifies[1] as " doing this-rather-than-that and not simply as acting ").

This seems to me to be wrong. Quite rightly, stress is laid on the fact that in choice there is always an awareness of alternative courses of action. But if deliberating on alternatives is involved in choice, surely there must be at some stage a commitment, that is, a decision to take one course of action rather than another. The commitment is a commitment to a particular imperative (" Take the bun ") which is an answer to a particular question (" Which shall I take—the bun or the penny? ").[2] Since commitment is the essence of choosing, choosing is not identical with the actual *doing* this-rather-than-that: the relationship between the two is rather one of quasi-implication. A man may choose a tie and in the normal course of events he will buy the tie, for there is no logical gap between choosing and buying. But, of course, he may be prevented from buying the tie (he hasn't got the money!), or he may suddenly change his mind. A choice is none the less genuine for being revocable. This can be clearly seen where the choice does not involve doing something at the time (e.g. choosing a place for next year's holiday).

Choosing, then, is on the same logical level as deciding: both are commitments to act, and both involve fundamentally the same type of mental operation. Indeed, if this view is not taken, it must be asked what is the relation between choice and decision? Evans, who believes that there is such a thing as decision, refuses to assimilate it with either choice or action, and in his account of the total process leading from deliberation to action he ignores it altogether. His two stages should surely be three, deliberation, decision and choice or action. If a three stage process of this kind is conceded, it becomes just as easy, if not easier, to assimilate choice to decision rather than action.

[1] J. L. Evans, *op. cit.*, p. 311.

[2] On this see B. Mayo, ' Deliberative Questions: A Criticism ', ANALYSIS, vol. 16, no. 3.

How are we to interpret the so-called 'standard' use, where the verb 'to choose' is followed by nouns rather than verbs? It does seem contradictory to say "I chose tea rather than coffee, but I did not take either" and therefore, Evans concludes,[1] "it is usually correct to identify the choosing with the doing inasmuch as there is no gap between them". But it is possible to argue that the contradiction arises, not because 'choose' and 'take' can be identified, but because 'choose' in such a context is an 'umbrella' word. The full sentence should read "I chose to take, and took, the tea rather than the coffee, but I did not take either". The noun usage can thus be assimilated to the verb usage. There is no warrant for calling the former the 'standard' use, as Evans does, if by this it is meant either that it is logically prior to the other use or that it is commoner in actual speech. If it is possible to argue in this way there is no need to identify the choosing to take with the taking. Evans says (p. 312) that it is very odd to speak of 'choosing and taking', but it only seems odd because we don't usually talk like that. In any case, it is quite in order, as often as not, to talk of 'choosing and buying' etc. So 'choosing X' in many contexts is equivalent to 'choosing to take (to buy, etc.) X-rather-than-Y and taking (buying, etc.) X. It makes no difference, as we have seen, to the logic of the verb 'to choose' whether it is followed grammatically by nouns or by verbs. As Evans says (p. 312) precisely the same account can be given of the two statements 'he chose to die rather than be disgraced' and 'he chose death rather than dishonour'.

In the light of what has been said, let us consider some statements which have been made by Nowell-Smith.[2]

(*a*) "Since choosing involves doing something, a man cannot be said to have chosen until he has at least started on his chosen course". The last part of the sentence can only be translated "until he has at least started on the course that has previously been chosen by him". In this case the verb implies subsequent action and cannot be identified with it. Nowell-Smith might in fact be accused of using the verb in two senses ('to have chosen' equals 'to have acted with deliberation': 'chosen course' apparently equals 'decided course').

(*b*) "Merely to decide to play the ace of spades is not yet to choose it, and a decision does not therefore entail a choice". Could we not say that in deciding to play the ace of spades we

[1] J. L. Evans, *op. cit.*, p. 309.
[2] Nowell-Smith, *op. cit.*, p. 101.

thereby chose it from among the other cards in the pack? We might add that although decision and choice are not interchangeable terms, an analysis of these two concepts does reveal that both terms can be used synonymously in many cases, and they have in common an essential reference to commitment.

(*c*) " The fact that people choose to do what they have decided to do is not something that we discover by observation of human behaviour ". Can we speak of people choosing to do what they have decided to do? There is an air of tautology about such language, and from what I have said one can see why. It is much more appropriate to speak of someone *doing* what he had decided, or chosen, to do. In fact Nowell-Smith uses the expressions ' to do ' and ' to choose to do ' interchangeably. He says (p. 102) " But ' choosing ' and ' deciding ' are used in such a way that it is analytic to say that if a man has decided to do something and does not do it then either he was prevented or he changed his mind ". One can see how wrong this usage is if one substitutes for ' does not do it ' its equivalent (according to Nowell-Smith) ' does not choose to do it '. Also the notion of choice becomes idle and redundant. Decision (which he admits to exist), on the one hand, and action, on the other, are all that his account strictly demands. There is point in identifying choice with decision but none in identifying it (as he does) with action. For Nowell-Smith ' chosen course ' equals (as we have seen), by implication, ' decided course '. Therefore ' chosen ' ought to equal ' decided '.

To conclude. Choosing and deciding are on the same logical level. But choosing emphasises deliberation about alternatives: deciding stresses the factor of commitment (although both commitment and alternatives are present in either case). In some cases (e.g., where choosing does not involve doing something immediately, or even at all) the difference between choice and decision is no more than this. At other times (particularly in Evans's ' standard ' use) the difference is more marked. Choosing then certainly seems often to be used in an ' umbrella ' fashion so as to include the subsequent action (taking, buying, etc.), and one might mistakenly think that an ' action ' verb alone can be substituted for it. To make such a substitution is to leave out the vital factor of commitment or decision. This is the essence of my quarrel with Evans. Nowell-Smith, on the other hand, does not neglect decision, but in separating it from choice, leaves the latter an empty and useless concept.

University of Sheffield.

LOGIC AND INFRALOGIC

By R. HARRÉ

THE theorems of logic state rules, the rules of arguments, but are they the only rules we use in making deductions? In studying logic the *materials* of study are arguments, the rational constructions of language. These can be examined, either directly in themselves, or indirectly by studying the rules that justify them. There is some advantage to be gained in studying the rules and not the arguments themselves, for example many arguments can be studied in a single rule. That it is rules for arguments (or in dynamic terms rules for inference-drawing) that are studied in modern logic and that are expressed in logical theorems I take to be shown by the fact that there is no sign for "therefore" in the logician's symbolic vocabulary of conjunctions. Frege was right when he put the conditional at the basis of logic for it is in the conditional form that inference-rules are commonly stated. I want to make clear that there are two *kinds* of rules commonly used in propositional arguments. Concentration upon the kind of entailments whose rules are expressed in the "theorems" of logic obscures the existence of another set of rules intimately connected with, but separate from the "theorems" of logic.

We can best approach the analysis of rules by examining the logical role of conjunctions in building up arguments. For the full extent of this role to be clear it is important to make a beginning with the most primitive logical acts. Among primitive speech-acts there is a vital difference between assertion and denial on the one hand, and, on the other, those appraisals of the success or failure of statements that are expressed by the ascription of truth and falsity. Putting forward a statement is different from saying that it is true, and our temptation to assimilate these activities one to another comes from the fact that one does not normally put forward a statement unless one believes it to be true. Conversely when we meet a statement put forward with sincerity we usually take it to be true. Lies are possible only because we normally take the issuer of an utterance to be sincere.

It is this fact which makes it seem plausible to think of ". . . is true" as vacuous, as conveying nothing which the act of assertion does not convey, but this is an illusion. It is fostered by the peculiar character of "true" and "false", by their

intimate link with assertion and denial, and by the fact that these words are not logical operators; they do not form statements out of statements. A statement remains the *same* statement whether we mark our appraisal of its success by the use of " true " or " false ", whether we intend the statement as the truth or as a lie.

Far from it being the case that " . . . is true " can be dispensed with in favour of assertion, it is essential for the full understanding of logic that we supply it explicitly where the act of assertion suggests it implicitly. The reason why this supplementation is required is the obvious fact that assertions can be true or false, just as denials can. The intimate link between assertion and denial, truth and falsity, comes from the logical character of assertion and denial. They are logical operations, and the logical operators by which they could be represented perform two functions. A logical operator's first and most obvious function is to form statements out of statements. This is familiar. Its second, less emphasized but vital function, is to operate upon the truth-values of the statements to which it is affixed. For example the familiar explanation of the function of " not ", ' If we deny a true statement we get a false statement and vice versa ' describes such an operation. For want of a better word I shall call this process " allocation ". To deny a statement is not to *give* it a truth-value, but to make a new statement with the complementary truth-value. Assertion is a vacuous move vis-à-vis the truth-value of a statement, for no change in truth-value is made. In ordinary language to go on asserting something is to make the same statement again and again. I will mark the appraisal of the success or failure of a statement made by the use of a sentence p as follows :

p^t for " p is true "
p^f for " p is false ".

The symbols t and f occurring as superscripts serve to mark the appropriate appraisal. I will call these symbols " infralogical indicators ", for the appraisals they mark lie *below* the surface of the regular logical moves of assertion, denial, conjunction etc. that are symbolized by the logical operators.

The purpose of the introduction of the term " infralogical indicator " and other terms of a similar kind is generality. The so-called truth-values are a special case of infralogical indicators. The use of a specific term like *truth-value* can blind us to the fact that there are a great many other terms in language that play the same kind of role, though differing in the details of

their functioning. A well-known class of words used to mark appraisals are the terms "necessary", "contingent", "self-contradictory", which through "necessity-tables" constructed on the analogy with truth-tables might provide a fresh approach to some parts of modal logic.

Each set of such words will define a logic, just as the words "true" and "false" serve to define classical propositional logic, since in the case of any argument we can show either that:

i. Given a certain statement (or form of statement) the consequences of it are to be appraised by the use of the same infralogical indicator. A special case is ordinary deduction where we argue from premisses to a conclusion and the point of the argument is that knowing the truth of the premisses we should know the truth of the conclusion *without testing it independently*. Or that:

ii. Given a certain set of statements connected into an argument pattern we should be able to find out what is the correct appraisal of any one of them, knowing the appraisals we have made of the others, *without testing it independently*.

The effect of a logical operation upon the infralogical indicators is well-known. For example if we take the Polish K (to be read "and") and use it to operate upon two sentences represented by p and q, then we have, for example, the following elementary relation between statements made by the use of these sentences: "If p and q are both true, then Kpq is true". This can be represented by

$$K^{t}p^{t}q^{t}$$

The effect of the operator K has been two-fold. In the first place it has formed a new sentence Kpq out of two sentences p and q. Secondly it has allocated an indicator, on the basis of the indicators of the elementary *statements* p^{t} and q^{t}, to the new statement $K^{t}pq$. The full codification of all possibilities of allocation of infralogical indicators when a new statement is formed is expressed in the defining matrix for the operator, for example (in this special case) in the full truth-table for the logical operator K.

A further advantage of the notation of infralogical indicators is that we can express symbolically the all-important difference between sentence and statement. A natural extension of the symbolism is the introduction of an indicator-variable, and I shall call a propositional sign with an indicator-variable in place of a specific indicator an "infrafunction". In symbols

$$p^{x}$$

The range of values which x can take can be expressed in a principle which will be one of the defining principles of a logic. A principle of this kind could be called a Principle of Bivalence used to introduce the propositional calculus by Lukasiewicz.[1] This principle says in effect: "There are two truth-values, true and false". Such a principle will restrict the range of x to the two values t and f. The defining matrices, used for giving meaning to the operators of a logic, are expressed in terms of sets of infralogical indicators. These matrices serve both to define the logical operators and to complete the specification of the properties of the indicators, begun in the Principle of Indication. It seems clear that both in the interpretation of a logical calculus, and in the building of a logic for a certain slice of language, a beginning must be made with an ample discussion of the indicators that will be used.

The distinction between sentence and statement is now clearly expressible. A sentence is formally truth-open, it has not been put forward in a context since it is the *type* of statements that are so put forward. It seems natural to identify the sentence with the propositional infrafunction p^x. The use of the sentence to make a statement results in a locution which is either true or false and whose truth and falsity is in principle determined. The assignment of a definite value, say either t or f to the indicator-variable, corresponds to the use of a sentence to make a statement.

Finally the notation of indicators allows a perspicuous representation of the rules which lie behind the construction of truth-tables. Expressing the truth-table as a series of statements in the notation of infralogic allows us readily to see that the summation of the whole truth-table in a logical rule obscures the existence of another set of rules, the rules of the infralogic. An example of an infralogical rule is that given above to introduce the logical operator K. Given that p is true and that q is true we may infer by means of the rule "If p and q are both true, then Kpq is true", that Kpq is true. The matrix form of truth-table, undeveloped by some such notational device as infralogical indicators, leads too directly to the rules of common logic. Each truth-table is itself a set of rules. We might sum up the structure of a system of propositional logic as follows:—

(a) There are first the rules of the infralogic, the material of

[1] *Aristotle's Syllogistic*, p. 55.

which is the marks of the appraisals we make of the success or failure of certain speech-acts.

(b) Then there are the rules of logic, the material of which is the forms of the sentences used to make the statements which can be appraised as in (a).

(c) Finally there are the rules of the metalogic, which can themselves be regarded as summing up an infralogic based upon the appraisals appropriate to the logical rules which are the statements of (b). These appraisals are the familiar " necessarily true ", " self-contradictory " and so on.

A good example of the kind of subtle muddle about foundations that the terminology and notation I have introduced can help to clear up is provided by the discussion in A. N. Prior's *Formal Logic* (pp. 4—16), which leads to the introduction of truth tables. Here the *same* signs, ' 1 ' and ' 0 ', are used both for the representation of " any true proposition "[1] and any false proposition respectively, *and* for the representation of what I have called infralogical indicators. These, which form the elements of the matrices of truth-tables, are not propositions, but the marks of certain appraisals. The results of this assimilation of signs are:—

1. To suggest, wrongly, that the elements in truth-tables are " propositions " (which I take in this context to be synonymous with the more perspicuous " statement ") and to obscure the fact that they are appraisal-marks.

2. To obscure the vital difference between the " proposition " as it appears in an ordinary theorem of logic where it is essentially truth-open (" proposition " is here synonymous with the more perspicuous " sentence ") and the statement, which is essentially truth-closed. For the construction and validation of arguments among statements we require, not the rules of logic, but of infralogic.

[1] A. N. Prior, *Formal Logic*, p. 5.

University of Birmingham.